

CLAIMS

What is claimed is:

1. A purified antibody that binds specifically to a polypeptide comprising amino acid residues 24-886 of SEQ ID NO:2.
2. A method of reducing colonization of epithelial cells by StcE producing bacteria comprising contacting the epithelial cells with the antibody of claim 1 or an inhibitor of StcE.
3. A composition comprising a purified polypeptide comprising at least 25 consecutive amino acid residues of SEQ ID NO:2 and an adjuvant.
4. The composition of claim 3, wherein the polypeptide comprises amino acid residues 24-886 of SEQ ID NO:2.
5. A method of eliciting an immune response in an animal comprising inoculating the animal with the composition of claim 3 in an amount effective to elicit an immune response.
6. The method of claim 5, wherein the composition comprises a polypeptide comprising amino acid residues 24-886 of SEQ ID NO:2.
7. A method of reducing complement-mediated disruption of cells comprising contacting the cells with a purified polypeptide comprising amino acid residues 24-886 of SEQ ID NO:2 or SEQ ID NO:19 (StcE E435D) in an amount effective to reduce complement-mediated disruption relative to that of cells not contacted with the purified polypeptide.
8. The method of claim 7, further comprising contacting the cells with exogenous C1-INH.

9. A method of reducing the viscosity of a material comprising a mucin or a glycosylated polypeptide comprising contacting the material with a viscosity reducing effective amount of StcE.
10. The method of claim 9, wherein the material is saliva.
11. The method of claim 9, wherein the material is sputum.
12. A composition for enhancing delivery of a target antigen to mucosal cells comprising the target antigen and StcE.
13. A method of eliciting in an animal an immune response to a target antigen comprising contacting the mucosal cells of the animal with the composition of claim 12.
14. A method of detecting StcE in a sample comprising contacting the sample with the antibody of claim 1 and detecting binding of the antibody.
15. A method of detecting StcE activity comprising:
 - (a) contacting a sample containing or suspected of containing StcE with C1-INH under suitable conditions to allow cleavage of C1-INH by StcE, if present; and
 - (b) detecting C1-INH cleavage.
16. A method of evaluating a test substance for the ability to inhibit StcE comprising:
 - (a) contacting C1-INH with the test substance and StcE; and
 - (b) detecting the extent of cleavage of C1-INH of step(a); and
 - (c) comparing the extent of cleavage of step (b) with that of C1-INH contacted with StcE in the absence of the test substance.